

**IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF OHIO
WESTERN DIVISION - CINCINNATI**

NORGE HOLDINGS, LLC, et al.,	:	Case No. 1:20-cv-918
	:	
Plaintiffs,	:	Judge Matthew W. McFarland
	:	
v.	:	
	:	
JOHN D. CULLINAN, et al.,	:	
	:	
Defendants.	:	

CLAIM CONSTRUCTION OPINION AND ORDER

This patent case is before the Court for construction of the disputed claim terms in United States Patent No. 9,643,823 (“the ‘823 Patent”). Having conducted a claim construction hearing and considered the parties’ briefs, evidence, and oral arguments, the Court now constructs the disputed terms.

I. Background

The patent-in-suit is a product designed for Jeep owners to remove, store, and reinstall the convertible hardtops on their vehicles. Plaintiff Norge Holdings, LLC, owns all right, title, and interest in the ‘823 Patent. Plaintiff Alien Technologies Corp. is the exclusive licensee of the ‘823 Patent. (First Amended Complaint, Doc. 46, ¶¶ 2-3, 13-14, 46-47.) Alien markets the product as the Top Lift Pros Jeep Hard Top Removal Tool (“the Patented Product”). (*Id.* at ¶¶ 15-16.) Plaintiffs accuse Defendants of infringing the ‘823 Patent by developing and selling their competing product, the ROLLNJACK. The parties dispute the construction of four terms in Claim 1. They do not agree on the construction

of any terms or phrases. (Joint Claim Construction and Prehearing Statement, Doc. 31.)

II. General Legal Standards for Claim Construction

Claim construction is a matter of law. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 977 (Fed. Cir. 1995). Its purpose is to resolve the meanings and technical scope of disputed claim terms. *U.S. Surgical Corp. v. Ethicon, Inc.*, 103 F.3d 1554, 1568 (Fed. Cir. 1997). “It is a ‘bedrock principle’ of patent law that ‘the claims of a patent define the invention to which the patentee is entitled the right to exclude.’” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (quoting *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004)). When construing a claim term, a court looks to “the words of the claims themselves, the remainder of the specification, the prosecution history, and extrinsic evidence concerning relevant scientific principles, the meaning of technical terms, and the state of the art.” *Id.* at 1314.

The words of a claim generally bear their ordinary and customary meaning, as understood by a person of ordinary skill in the art. *Phillips*, 415 F.3d at 1313. A person of ordinary skill is deemed to read the claim term not just in the context of that particular claim, but of the entire patent, including the specification. *Id.* Courts must be mindful, however, not to read extraneous limitations into a claim from the specifications. *E.I. du Pont de Nemours & Co. v. Phillips Petroleum Co.*, 849 F.2d 1430, 1433 (Fed. Cir. 1988). The patent’s prosecution history—which includes the complete record of the proceedings before the Patent and Trademark Office (PTO)—is also relevant during claim construction, because it provides evidence of what the PTO and the inventor understood about the invention. *Phillips*, 415 F.3d at 1317.

Patent law also provides for claim limitations through drafting claim terms that invoke means-plus-function claiming under 35 U.S.C. § 112(f). Section 112(f) provides the following:

An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

35 U.S.C. § 112(f). Use of the word “means” creates a rebuttable presumption that § 112(f) applies. *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1348 (Fed. Cir. 2015). This provision lets patentees express a claim limitation by reciting a function to be performed, instead of reciting structure that performs that function. *Williamson*, 792 F.3d at 1347. Limiting claims this way, however, restricts the scope of coverage “to only the structure, materials, or acts described in the specification as corresponding to the claimed function and equivalents thereof.” *Id.*; see also *Media Rts. Techs., Inc. v. Cap. One Fin. Corp.*, 800 F.3d 1366, 1371 (Fed. Cir. 2015).

Constructing a means-plus-function claim term involves two steps. First, the court identifies the claimed function. Then, it determines what structure (if any) disclosed in the specification corresponds to the claimed function. *Williamson*, 792 F.3d at 1351. Only structure that is necessary for performing the claimed functions is covered. *Micro Chem., Inc. v. Great Plains Chem. Co.*, 194 F.3d 1250, 1258 (Fed. Cir. 1999).

III. Construction of Disputed Claim Terms

The parties dispute the construction of four terms or phrases found in Claim 1 of the '823 Patent. The Court will give them their construction now.

1. **"An apparatus for removing, storing, and installing removable hardtop devices from automobiles"**

The first dispute is over the preamble—the introductory phrase of the claim. Claim 1 opens: "An apparatus for removing, storing, and installing removable hardtop devices from automobiles comprising:" ('823 Patent, Doc. 1-1, 9:38-39, Pg. ID 47.) Both sides agree that the preamble is a limitation. But they disagree on what words in the preamble are limiting. Defendants claim that the entire preamble is a limitation. (Transcript of *Markman* Hearing, Doc. 38, Pg. ID 967.) Plaintiffs maintain that only the phrase "hardtop devices from automobiles" is limiting. (*Id.* at Pg. ID 957.) Specifically, they argue that that phrase defines the invention and provides an antecedent basis for the shortened phrase "the hardtop" throughout the body of Claim 1.

Generally, a preamble does not limit the claim. *Allen Eng'g Corp. v. Bartell Indus., Inc.*, 299 F.3d 1336, 1346 (Fed. Cir. 2002). But a preamble may limit the invention "if it recites essential structure or steps, or if it is 'necessary to give life, meaning, and vitality' to the claim." *Catalina Mktg. Int'l, Inc. v. Coolsavings.com, Inc.*, 289 F.3d 801, 808 (Fed. Cir. 2002) (quoting *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1305 (Fed. Cir. 1999)). One "guidepost" for determining limitation by preamble is when a preamble phrase serves as an antecedent basis for a term that later appears in the body of a claim. *Id.* Such dependence on a particular preamble phrase for antecedent basis may limit the

scope of the claim, because it indicates reliance on both the preamble and the claim body. *Id.*; *In re Fought*, 941 F.3d 1175, 1178 (Fed. Cir. 2019) (“We have repeatedly held a preamble limiting when it serves as antecedent basis for a term appearing in the body of a claim.”). And, if a court determines that a phrase in the preamble is limiting, that “does not necessarily convert the entire preamble into a limitation, particularly one that only states the intended use of the invention.” *TomTom, Inc. v. Adolph*, 790 F.3d 1315, 1323 (Fed. Cir. 2015).

Here, the preamble phrase “hardtop devices from automobiles” provides an antecedent basis for the phrase “the hardtop.” “Automobiles” indicates the products with which the hardtops will be connected. The word “from” clarifies that the hardtops are capable of being separated from the automobiles. Importantly, the term “the hardtop” later appears numerous times throughout Claim 1. It also appears in Claims 3 and 6. These subsequent uses include the definite article “the,” clearly referring to “hardtop devices from automobiles” from the preamble phrase. Given the presence of the full phrase, “hardtop devices from automobiles,” in the preamble, later references to “the hardtop” do not need full elaboration in order for readers to understand what the patent covers. The preamble phrase thus provides necessary antecedent basis to the claims. *Cochlear Bone Anchored Sols. AB v. Oticon Med. AB*, 958 F.3d 1348, 1354 (Fed. Cir. 2020).

Defendants argue that the entire preamble is limiting, not just the phrase “hardtop devices from automobiles.” (Trans., Doc. 38, Pg. ID 961-967.) They argue that the rest of the preamble is necessary to give meaning to the claim. (*Id.* at Pg. Id 962.)

The Court disagrees. As a starting point, a court need not construe the entire preamble just because it construes some of it. *E.g., TomTom, Inc.*, 790 F.3d at 1323. “A conclusion that some preamble language is limiting does not imply that other preamble language, or the entire preamble, is limiting.” *Cochlear Bone*, 958 F.3d at 1355. And, here, the remaining preamble language fails to fit into an exception to the general rule that preamble language is not limiting. *See Aspex Eyewear, Inc. v. Marchon Eyewear, Inc.*, 672 F.3d 1335, 1347 (Fed. Cir. 2012). Preamble language is not limiting when a patentee “defines a structurally complete invention in the claim body and uses the preamble only to state a purpose or intended use for the invention.” *Cochlear Bone*, 958 F.3d at 1355 (quoting *Arctic Cat Inc. v. GEP Power Prod., Inc.*, 919 F.3d 1320, 1328 (Fed. Cir. 2019)). The words in question here— “[a]n apparatus for removing, storing, and installing removable” —simply state a purpose or intended use of the patent. *Id.* Those words identify no structure of the claimed apparatus. They do not describe a patently unique feature of the invention. *Id.* Nor do they provide any antecedent basis. They simply state how the product is designed to be used. Such language is not limiting. *Catalina Mktg.*, 289 F.3d at 809 (quoting *In re Gardiner*, 171 F.2d 313, 315–16, (C.C.P.A. 1948)).

It is the bodies of the claims that actually describe the covered structures. For instance, the body of Claim 1 describes “a means for vertical lifting” that “allows the apparatus to exert force vertically for removing the hardtop from the automobile.” (823 Patent, Doc. 1-1, Pg. ID 47.) Claim 1 also describes “a platform structure” that “interfaces with the hardtop” and the ability of the apparatus to be “positioned to the hardtop.” (*Id.*) As in *Cochlear Bone*, these descriptions supply a complete structure. 958 F.3d at 1355. The

rest of the preamble language— “[a]n apparatus for removing, storing, and installing removable” — offers nothing explaining how the claimed device is configured. *Id.*

Accordingly, the Court finds that the preamble of Claim 1 is **limiting only as to “hardtop devices from automobiles.”**

- 2. “a moveable base unit which is sufficiently long and wide to support the apparatus from longitudinal and axial moments with and without the hardtop installed”**

Plaintiffs’ Proposed Construction	Defendants’ Proposed Construction
Plain and ordinary meaning (no formal construction required).	A base on wheels having two legs, each leg having a horizontal length extending from the vertical support to at least the horizontal location of the center of mass of the apparatus when the hardtop is installed on the platform assembly and when it is not installed; and wherein the lateral distance between the two legs is sufficient to prevent the unit from tipping over sideways but not exceed the distance between the inner side of the tires of the automobile.

Plaintiffs argue that the “moveable base unit” term language does not require construction and should be given its plain and ordinary meaning.

Defendants contend that the claim language leaves questions about the meaning of “longitudinal moment” and “axial moment,” as well as how to determine what is “sufficiently long and wide.” They point to Figures 1, 8, and 9, and the specification for assistance. Defendants rely mostly on this language from the specification:

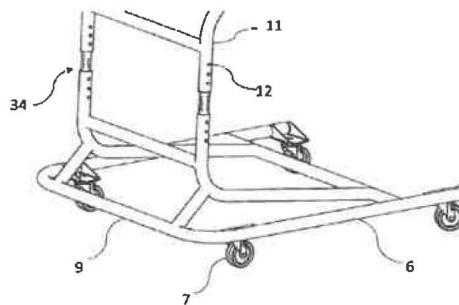
The most critical design aspect of the base unit is that the horizontal distance between the end of the base legs 6 and the vertical support 4 be sufficient to prevent the unit from toppling over when the hardtop 1 is installed on the platform assembly 5. The ends of the base legs 6 should extend from the vertical support 4 to at least the horizontal location of center of mass of the unit, both with

the hardtop installed and the hardtop removed and ideally a bit past the center of mass for added stability.

Additionally, *the lateral distance between the two legs 6 needs to be sufficient to provide lateral support and prevent the unit from tipping over sideways, however, the distance cannot exceed the distance between the inner side of the tires of the SUV 10.* Exceeding the distance between the inner sides of the tires 10 would prevent the legs 6 of the unit from being able to roll underneath SUV 2 so that the platform assembly 5 can align with the removable hardtop 1.

(‘823 Patent, Doc. 1-1, 4:25-41, Pg. ID 44) (emphasis Defendants’). They also rely heavily on the preferred embodiment in Figure 8:

FIGURE 8



(‘823 Patent, Doc. 1-1, Fig. 8, Pg. ID 35.) Defendants argue that, by identifying the “most critical design aspect” and only one configuration, Plaintiffs limited the claims to the specific configuration described. (Doc. 27, Pg. ID 376.)

Defendants are incorrect. Claims are not limited to the preferred embodiment disclosed in the specification. *Denis Cima, Inc. v. Fecon, Inc.*, No. 1:17-CV-820, 2019 WL 1760068, at *4 (S.D. Ohio Apr. 22, 2019). Specifications may show that certain preferred embodiments exist, but courts are not supposed to read specific embodiments from the specification into the claims when the claim language is broader than those embodiments. *Electro Med. Sys., S.A. v. Cooper Life Scis., Inc.*, 34 F.3d 1048, 1054 (Fed. Cir. 1994). Indeed,

it is “one of the cardinal sins of patent law” to read a limitation from the written description into the claims. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1320 (Fed. Cir. 2005) (citation omitted). And, here, neither the drawings nor the specifications limit the claims.

Take the drawings first. The ‘823 Patent does not purport that the configurations are the only way to build the invention. On the contrary, it reads that “the present invention *may* be embodied in the form illustrated in the accompanying drawings.” (‘823 Patent, Doc. 1-1, 3:15-19, Pg. ID 44.) The use of the word “may” indicates that other embodiments could also accomplish the object of the invention. The drawings, furthermore, are “illustrative only” and do not preclude “[v]ariations.” (*Id.*) Thus, the configurations do not impose limitations on the patent’s claims.

Nor does the specification language. The paragraph that discusses the invention having “two legs” does not, as Defendants contend, *require* the unit to have two legs. That section is specifically referring to the preferred embodiment – which, as described earlier, is not the invention’s exclusive iteration. (*Id.*) Furthermore, other structures described in that paragraph are clearly exemplary, not required. Namely, the preferred embodiment depicts tube-in-tube slide-over connections with aligning holes for adjustment with pins. Importantly, however, those two units could be connected “in any manner known to those skilled in the art.” (*Id.* at 4:23-24, Pg. ID 44.) So, in context, the two-leg description is simply an exemplary embodiment. See *Uniloc 2017 LLC v. Google LLC*, No. 2:18-CV-00497-JRG-RSP, 2020 WL 555542, at *6 (E.D. Tex. Feb. 4, 2020).

Beyond the supposed two-leg limitation, the rest of Defendants’ proposed construction fails because it commits the “cardinal sin” of importing limitations from the

specification. *See id.* Defendants insist there is ambiguity surrounding what “sufficiently long and wide” means. They would impose limits from the specification language, spelling out how long each leg should be relative to the center of mass and providing for a lateral distance that will prevent the tool from tipping over. Their attempt is unpersuasive, first, because the context of the specification language they draw from itself indicates room for variation when it provides that the ends of the base legs should extend “ideally a bit past the center of mass for added stability.” (’823 Patent, Doc. 1-1, 4:32-33, Pg. ID 44.) And, moreover, the patent’s broader term “sufficiently long and wide to support the apparatus from longitudinal and axial moments” is readily understandable and artfully succinct. Defendants’ 81-word substitute is far more confusing than what the claim describes. *Sycamore Ip Holdings LLC v. ABB, INC.*, No. 2:15-CV-238-JRG, 2015 WL 8207750, at *16 (E.D. Tex. Dec. 7, 2015) (“Finally, although forms of the words proposed by Defendants, ‘setting’ and ‘disposing,’ appear in the specification or the prosecution history, the broader term ‘generating’ is readily understandable, and Defendants’ proposal would tend to confuse rather than clarify the scope of the claims.”).

Although the claim’s use of the term “moment” is unfamiliar to lay readers, this term may be understood based on its ordinary and customary meaning. Note first that “patents are addressed to and intended to be read by others of skill in the pertinent art,” *Phillips*, 415 F.3d at 1313, not to the public or even to courts, *In re Nelson*, 47 C.C.P.A. 1031, 280 F.2d 172, 181 (1960), *overruled on other grounds by Application of Kirk*, 376 F.2d 936, 944 (C.C.P.A. 1967). Even so, at oral argument Plaintiffs’ counsel recognized that Defendants’ own brief defined “moment” as a rotational force, doing the task of understanding the

claim based on its plain and ordinary meaning. (Trans., Doc. 38, Pg. ID 1026.) Defense counsel agreed that “a moment is rotational force.” (*Id.* at Pg. ID 1031.)

Because the claim language is broader than the embodiments, the Court will not read limits from the specification into the claim. *Electro Med.*, 34 F.3d at 1054. Accordingly, the claim term **“a moveable base unit which is sufficiently long and wide to support the apparatus from longitudinal and axial moments with and without the hardtop installed”** will be given its plain and ordinary meaning.

3. **“a means for vertical lifting which is connected to said vertical support structure and allows the apparatus to exert force vertically for removing the hardtop from the automobile, sustaining the hardtop at a fixed height once the hardtop has been removed from the automobile, and allowing the hardtop to be controllably lowered onto the automobile during installation”**

Plaintiffs' Proposed Construction	Defendants' Proposed Construction
<p>The term “means for vertical lifting” is a means-plus-function limitation under 35 U.S.C. § 112(f).</p> <p>The function of the “means for vertical lifting” as recited in Claim 1 is that it “allows the apparatus to exert force vertically.”</p> <p>The function does not include “for removing . . .” and everything after that because it merely recites a result.</p> <p>The structure corresponding to the alternate embodiment described in the '823 Patent in relation to Fig. 15 is “a vertical platform push rod, a lift gear, and a corresponding gear motor,” and equivalents thereof.</p>	<p>Means-plus-function claim in accordance with 35 U.S.C. §112(f).</p> <p>Functions:</p> <ol style="list-style-type: none"> 1. Exerting force vertically for removing the hardtop from the automobile; 2. Sustaining the hardtop at a fixed height once the hardtop has been removed from the automobile; 3. Controllably lowering the hardtop onto the automobile during installation. <p>Structure:</p> <ol style="list-style-type: none"> 1. Ratcheting gear assembly with lift lever that controls upward and downward movement of platform around a hinged connection by operator applying downward force; connected to the vertical support

	<p>beams in two parallel locations via hinged connections;</p> <ol style="list-style-type: none"> 2. Two vertical platform push rods, each connected (a) at their lower end to the lift lever by hinged connections, (b) to the horizontal lift support members by additional hinged connections, and (c) to the platform at their upper ends by fixed connections; 3. Horizontal lift support members that by providing a second attachment location ensure the vertical push rods maintain a perpendicular orientation to the ground while moving up and down; 4. A semi-circular toothed lift gear affixed to the vertical support structure; 5. A pawl attached to the lift lever and having a spring loaded mechanism to engage the pawl and prevent downward movement of the platform when the pawl is engaged while permitting free upward movement; and 6. A release cable for the pawl.
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Means-plus-function claiming permits patentees to limit claims using functional language. Federal law provides that an element in a claim “may be expressed as a means . . . for performing a specified function” without reciting the entire structure that supports that function. 35 U.S.C. § 112(f). Such claims, however, only cover “the corresponding structure, material, or acts described in the specification and equivalents thereof.” *Id.*; see also, e.g., *Orange Elec. Co. v. Autel Intelligent Tech., Corp.*, No. 2:21-CV-00240-JRG, 2023 WL 300137, at *4 (E.D. Tex. Jan. 18, 2023). This provision allows patentees to limit claims “by

reciting a function to be performed rather than by reciting structure for performing that function.” *Williamson*, 792 F.3d at 1347.

The presence of the word “means” creates a rebuttable presumption that § 112(f) applies. *Id.* Construing a means-plus-function claim term involves two steps. First, the Court identifies the claimed function. *Id.* After the Court has determined the limitation’s function, the next step is to “determine the corresponding structure described in the specification and equivalents thereof.” *Medtronic, Inc. v. Advanced Cardiovascular Sys., Inc.*, 248 F.3d 1303, 1311 (Fed. Cir. 2001). Structure disclosed in the specification is “corresponding” only when the specification or prosecution history clearly associates that structure to the function recited in the claim. *Id.*

(i) Parties’ Positions: Function

Plaintiffs argue that, for the “means for vertical lifting” element, the function is expressly recited in Claim 1 as “[that] which is connected to said vertical support structure and allows the apparatus to exert force vertically.” (’823 Patent, Doc. 1-1, 9:47-49, Pg. ID 47.) In their view, the function ends there – it does not include everything from “for removing” to “during installation.” That language, they say, merely states the result of the limitation. As for structure, Plaintiffs point to two structural embodiments. First is the “ratcheting lift assembly 15.” (*Id.* at 5:16-23, Pg. ID 45.) The second structural embodiment consists of the “vertical platform push rods 22, lift gear 27, and a gear motor 24.” (*Id.* at 9:11-12, Pg. ID 47.)

Defendants respond that the 36 words Plaintiffs strike out contain functions that are connected to the vertical lifting means. In their view, the function of allowing the

apparatus to exert force vertically does not naturally also result in sustaining the hardtop at a fixed height or allowing for controllable lowering. In other words, those are functions that are distinct from the vertical lifting means.

(ii) Analysis: Function

The Court finds Defendants' position most persuasive. The "means for vertical lifting" has three functions: it "allows the apparatus to exert force vertically" to remove the hardtop; it sustains the hardtop "at a fixed height" after it has been removed; and it allows the hardtop to be "controllably lowered onto the automobile during installation." ('823 Patent, Doc. 1-1, 9:48-53, Pg. ID 47.) The three verb groups—allow-to-exert, sustain, and allow-to-controllably-lower—describe functions that the means for vertical lifting must accomplish in order for the invention to serve its purpose. Those verb-groups also modify the phrase "a means for vertical lifting." See *USHIP Intell. Properties, LLC v. United States*, 98 Fed. Cl. 396, 425, *on reconsideration in part*, 102 Fed. Cl. 326 (2011), *and aff'd*, 714 F.3d 1311 (Fed. Cir. 2013), *and aff'd*, 714 F.3d 1311 (Fed. Cir. 2013) (construing phrase based on what certain words modified). A means for vertical lifting that only exerts vertical force does not necessarily also sustain a hardtop at a fixed height, or, for that matter, also allow the hardtop to be lowered. Vertical lifting is different from sustaining at a fixed height. And vertical lifting is different from controllable lowering. So sustaining a hardtop at a fixed height and controllably lowering the hardtop cannot merely be the results of lifting the hardtop vertically.

Plaintiffs resist this conclusion, insisting that the words "for removing . . . sustaining . . . and allowing" are all results that flow from the limitations and add nothing

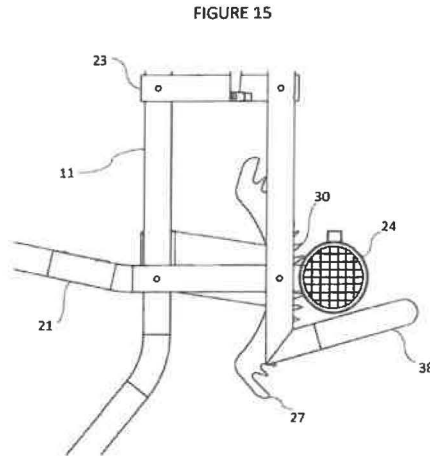
of the substance to the claim, relying on *Lockheed Martin Corp. v. Space Sys./Loral, Inc.*, 324 F.3d 1308, 1319 (Fed. Cir. 2003). But *Lockheed Martin* dealt with language that contained a “whereby” clause. In that case, all the language after the word “whereby” simply stated the result of the limitations. *Id.* In contrast, this patent does not contain the word “whereby” or any other indicator that the language of “removing,” “sustaining,” and “allowing” describes results instead of functions.

Accordingly, the Court concludes that the vertical lifting means bears the three separate functions Defendants propose: (1) exerting force vertically for removing the hardtop from the automobile; (2) sustaining the hardtop at a fixed height once the hardtop has been removed from the automobile; and (3) controllably lowering the hardtop onto the automobile during installation.

(iii) Parties’ Positions: Structure

Now that the Court has determined the claimed functions, it “must identify the corresponding structure in the written description of the patent that performs the function.” *Noah Sys., Inc. v. Intuit Inc.*, 675 F.3d 1302, 1311 (Fed. Cir. 2012). Two issues need to be resolved here: first, whether the alternative gear-based embodiment was disclaimed during the prosecution history, and, second, what structure is covered.

Plaintiffs assert only one structural embodiment, and that is the one corresponding to the alternative embodiment in relation to Figure 15: “a vertical platform push rod, a lift gear, and a corresponding gear motor,” and equivalents thereof. Figure 15 looks like this:



(’823 Patent, Doc. 1-1, Fig. 15, Pg. ID 42.) Defendants respond that the examiner required an amendment to the specification that limited the means for vertical lifting to the ratcheting mechanism. And, for that reason, they believe that the only corresponding structure is the structure relating to the ratcheting lift assembly. The prosecution history, part of the intrinsic record, reveals an examiner’s amendment from “a ratcheting lift assembly 15, and a tilting assembly” to “a ratcheting lift assembly 15, which provides a means for vertical lifting, and a lifting assembly.” (Examiner’s Amendment, Doc. 27-4, Pg. ID 448.) The applicant accepted that amendment and by doing so, from Defendants’ perspective, limited the claimed “means for vertical lifting” to cover only the ratcheting lift assembly and disclaimed coverage of the motorized system. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1317 (Fed. Cir. 2005) (“the prosecution history provides evidence of how the PTO and the inventor understood the patent”). On this basis, Defendants claim, the motor is not structure that is covered by the means-plus-function claim—only the ratcheting lift assembly is. (See Doc. 29, Pg. ID 734.)

In total, Defendants identify several other covered structures that are associated with the claimed “means for vertical lifting”:

(1) a ratcheting gear assembly (DN 1-1, 6:61-7:2) with a lift lever that controls upward and downward movement of the platform around a hinged connection by an operator applying downward force (*Id.*, 6:19-34), and that is connected to the vertical support beams in two parallel locations via hinged connections (*Id.*, 6:67-7:1); (2) two vertical platform push rods, each connected (a) at their lower end to the lift lever by hinged connections, (b) to the horizontal lift support members by additional hinged connections, and (c) to the platform at their upper ends by fixed connections (*Id.*, 6:35-51); (3) horizontal lift support members that by providing a second attachment location ensure the vertical push rods maintain a perpendicular orientation to the ground while moving up and down (*Id.*, 6:52-60); (4) a semi-circular toothed lift gear affixed to the vertical support structure (*Id.*, 6:63-7:1); (5) a pawl attached to the lift lever, and having a spring loading mechanism to engage the pawl and prevent downward movement of the platform when the pawl is engaged while permitting free upward movement (*Id.*, 7:3-21); and (6) a release cable for the pawl (*Id.*, 7:22-28).

(Doc. 27, Pg. ID 380-81.) Defendants contend that the first function—exerting force vertically for removing the hardtop from the automobile—is associated with the first of those three structures (the lift lever, two vertical platform push rods, and horizontal lift support members). The second function—sustaining the hardtop at a fixed height once the hardtop has been removed from the automobile—is associated with the fourth and fifth of the above structures (a semi-circular toothed lift gear and pawl with spring-loaded mechanism). The third function—allowing the hardtop to be controllably lowered back onto the mobile—is also associated with the fifth structure, as well as the sixth (the pawl and release cable). (*Id.* at Pg. ID 381-83.)

Plaintiffs reply that the alternative embodiment—the gear-based means for vertical lifting—was not waived. They assert that Defendants strain the prosecution

history and that the examiner's amendment did not constitute a clear and unmistakable disavowal of claim scope. As to the Defendants' proposed structures, they argue that the only structure necessary to perform the structure is the platform push rod, a lift gear, and corresponding gear motor.

(iv) Analysis: Structure

The term **"a means for vertical lifting which is connected to said vertical support structure and allows the apparatus to exert force vertically for removing the hardtop from the automobile, sustaining the hardtop at a fixed height once the hardtop has been removed from the automobile, and allowing the hardtop to be controllably lowered onto the automobile during installation"** appears in Claim 1 of the '823 Patent. ('823 Patent, Doc. 1-1, 9:47-53, Pg. ID 47.) The Court finds that the structures corresponding to the means for the "exerting," "sustaining," and "controllably lowering" functions are the six pieces of structure Defendants identify. The specification states that the "ratcheting gear assembly supports the lifting platform assembly and hardtop keeping it raised while the operating is not applying force to the lever." (*Id.* at 2:52-53, Pg. ID 43.) So the ratcheting structure both supports the vertical lifting function and the sustaining function. The ratcheting lift assembly itself is comprised of "a lift lever 21, vertical platform push rods 22, horizontal lift support members 23, a ratcheting mechanism 24, and a release mechanism 29." (*Id.* at 6:14-18, Pg. ID 45.) So the ratcheting structure – Defendants' First Proposed Structure – incorporates Defendants' Second and Third Proposed Structures as well. The lift gear itself "is a semi-circular shaped gear with a plurality of teeth." (*Id.* at 6:63-64, Pg. ID 45.) This works with the Fourth Proposed

Structure, which supports the sustaining function by “bind[ing] against the oppositely sloped edge first tooth it encounters, thereby locking it against the tooth and preventing any further motion in that direction.” (*Id.* at 7:18-20, Pg. ID 46.) Lastly, associated with the “controllably lowering” function, the pawl and its release cable are described in the specification as responding to an operator’s engagement such that “the cable . . . tightens, and disengages the pawl . . . from the gear teeth.” (*Id.* at 7:26-27, Pg. ID 46.) Once disengaged, the push rods move downward, lowering the hardtop. (*See id.* at 7:29-30, Pg. ID 46.)

Next we turn to the disavowal issue. “Disavowal can be effectuated by language in the specification or the prosecution history.” *Poly-Am., L.P. v. API Indus., Inc.*, 839 F.3d 1131, 1136 (Fed. Cir. 2016). The standard in either scenario is “exacting, requiring clear and unequivocal evidence that the claimed invention includes or does not include a particular feature.” *Id.* Ambiguous language is not enough to support disavowal. *Id.* Defendants claim the alternative motorized structure was disclaimed during the ‘823 Patent’s prosecution. They believe that because the examiner referred to the ratcheting lift as “a means for vertical lifting,” the alternative motorized structure was disclaimed.

The Court disagrees. More persuasive is Plaintiff’s position that Defendants’ reading of “a means for vertical lifting” as “*the only* means for vertical lifting” is an overly strained reading of the prosecution history. (Doc. 30, Pg. ID 753.) It does not clearly and unequivocally disavow of the alternative motorized embodiment to change “a ratcheting lift assembly 15, and a tilting assembly” to “a ratcheting lift assembly 15, which provides a means for vertical lifting, and a tilting assembly.” (Doc. 27-4, Pg. ID 448.) The

amendment does not introduce exclusive language, but rather indicates that the ratcheting lift assembly provides *one* means for vertical lifting. The amendment leaves room for alternative embodiments, such as the motorized gear embodiment. Accordingly, Plaintiff's proposed structure is covered as well.

(v) Court's Construction

In light of the evidence, the Court finds that the term **"a means for vertical lifting which is connected to said vertical support structure and allows the apparatus to exert force vertically for removing the hardtop from the automobile, sustaining the hardtop at a fixed height once the hardtop has been removed from the automobile, and allowing the hardtop to be controllably lowered onto the automobile during installation"** is governed by § 112, ¶ 6, and construes the phrase as follows:

Functions: (1) Exerting force vertically for removing the hardtop from the automobile; (2) Sustaining the hardtop at a fixed height once the hardtop has been removed from the automobile; (3) Controllably lowering the hardtop onto the automobile during installation.

Corresponding Structure: (1) Ratcheting gear assembly with lift lever that controls upward and downward movement of platform around a hinged connection by operator applying downward force; connected to the vertical support beams in two parallel locations via hinged connections; (2) Two vertical platform push rods, each connected (a) at their lower end to the lift lever by hinged connections, (b) to the horizontal lift support members by additional hinged connections, and (c) to the platform at their upper ends by fixed connections; (3) Horizontal lift support members that by providing a second

attachment location ensure the vertical push rods maintain a perpendicular orientation to the ground while moving up and down; (4) A semi-circular toothed lift gear affixed to the vertical support structure; (5) A pawl attached to the lift lever and having a spring loaded mechanism to engage the pawl and prevent downward movement of the platform when the pawl is engaged while permitting free upward movement; (6) A release cable for the pawl; and (7) the structure corresponding to the alternate embodiment described in the '823 patent in relation to Fig. 15 is "a vertical platform push rod, a lift gear, and a corresponding gear motor," and equivalents thereof.

4. "wherein the apparatus may be positioned to the hardtop while is [sic] installed on the automobile and selectively raised or lowered by said vertical lifting means"

Plaintiffs' Proposed Construction	Defendants' Proposed Construction
<p>The "Wherein Clause" is definite; plain and ordinary meaning (no formal construction required)</p> <p><i>Alternate Construction:</i> The apparatus may be moved into position to lift the hardtop while it is installed on the automobile and then selectively raised or lowered by the vertical lifting means.</p>	<p>Indefinite: claim term read in light of the specification and prosecution history cannot be construed with reasonable certainty</p>

As a preliminary matter, Plaintiffs suggest that the word "it" may be missing and that the so-called "wherein clause" should read: "wherein the apparatus may be positioned to the hardtop while [it] is installed on the automobile and selectively raised or lowered by said vertical lifting means." (Doc. 28, Pg. ID 475.) Defendants agree that "words may be missing or out of order." (Doc. 27, Pg. ID 385-86.) Defendants, however, insist that the limitation is indecipherable.

Patents sometimes contain errors. District courts can still interpret the patent to correct obvious errors. *Novo Indus., L.P. v. Micro Molds Corp.*, 350 F.3d 1348, 1354 (Fed. Cir. 2003). “A district court can correct a patent only if (1) the correction is not subject to reasonable debate based on consideration of the claim language and the specification and (2) the prosecution history does not suggest a different interpretation of the claims.” *Id.* at 1357. We make that determination from the perspective of one skilled in the art. *Ultimax Cement Mfg. Corp. v. CTS Cement Mfg. Corp.*, 587 F.3d 1339, 1353 (Fed. Cir. 2009).

Defendants believe it would be improper to make a correction here. They are opposed to adding the word “it” where it seems to be missing. They also indicate that “may be positioned to the hardtop” is confusing and that it is unclear whether “the apparatus itself or the hardtop” is being “selectively raised and lowered.” (Doc. 27, Pg. ID 386.) And, the argument continues, because this language cannot be corrected, it is indefinite.

As it relates to the stretch of words “positioned to the hardtop while is [sic] installed,” the Court disagrees with Defendants’ position. It is obvious that the word “it” is missing and that the phrase should read “positioned to the hardtop while *it* is installed.” No person skilled in the art, nor indeed anyone with knowledge of basic grammar, would debate this. And nothing in the prosecution history suggests otherwise either. *Novo Indus.*, 350 F.3d at 1357. For this reason, the Court will proceed as though this term reads: “wherein the apparatus may be positioned to the hardtop while *it* is installed on the automobile and selectively raised or lowered by said vertical lifting means.”

Defendants insist that confusion still remains over whether the missing “it” would refer to the apparatus or the hardtop. The Court finds that the “it” refers to “the hardtop” mentioned immediately prior. This is so because, throughout the specification, the word “install” and its variants refer to hardtops. Look first at Claim 1 itself: the apparatus comprises “a moveable base unit” that supports the apparatus “with and without the hardtop installed.” (’823 Patent, Doc. 1-1, 9:39-42, Pg. ID 47.) Claim 1 later refers to how the platform structure is to operate “while the hardtop is installed on the apparatus.” (*Id.* at 9:57, Pg. ID 47.) The device is designed to perform “the basic function of installing and removing a hardtop.” (*Id.* at 8:16, Pg. ID 46.) And so on and so forth. (*Id.* at 3:4; 4:28; 4:31; 5:24; 7:40.) Accordingly, based on the claim language and the specification, it is not subject to reasonable debate, nor inconsistent with the prosecution history, that the word “it” belongs between “while” and “is” and that it refers to a hardtop. *Novo Indus.*, 350 F.3d at 1357.

The specification and claim language also make it clear that what is being selectively raised and lowered is, obviously, the hardtop. Nothing in the patent can even be construed to suggest that the apparatus itself would somehow be raised or lowered. The apparatus rests on the floor and clearly raises and lowers *hardtops*, not itself.

Figures 12 and 13 also clarify what is meant by “may be positioned to the hardtop”:

FIGURE 12

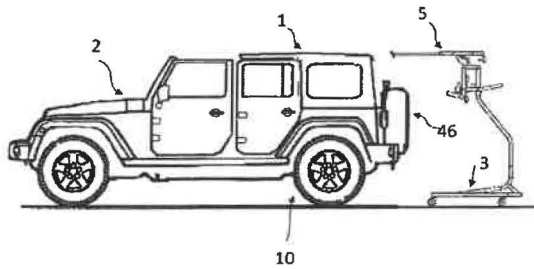
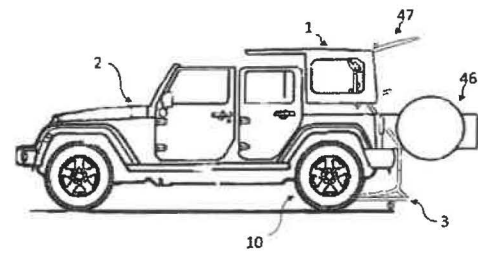


FIGURE 13



(‘823 Patent, Doc. 1-1, Figs. 12-13, Pg. ID 39-40.) These figures remove all doubt that “may be positioned to the hardtop” means to position the apparatus such that it is able to lift the hardtop from an automobile.

Nevertheless, the Court appreciates that the original claim language is awkwardly worded and, upon consideration, is persuaded that Plaintiff’s alternative construction accurately clarifies what this disputed term communicates. Accordingly, the Court construes this term to mean: **“The apparatus may be moved into position to lift the hardtop while it is installed on the automobile and then selectively raised or lowered by the vertical lifting means.”**

IV. Conclusion

The Court’s constructions are as follows:

Disputed Term	The Court’s Construction
“An apparatus for removing, storing, and installing removable hardtop devices from automobiles”	The preamble of Claim 1 is limiting only as to “hardtop devices from automobiles.”
“a moveable base unit which is sufficiently long and wide to support the apparatus from longitudinal and axial moments with and without the hardtop installed”	Plain and ordinary meaning.

"a means for vertical lifting which is connected to said vertical support structure and allows the apparatus to exert force vertically for removing the hardtop from the automobile, sustaining the hardtop at a fixed height once the hardtop has been removed from the automobile, and allowing the hardtop to be controllably lowered onto the automobile during installation"

Governed by 35 U.S.C. § 112, ¶ 6.

Functions:

- (1) Exerting force vertically for removing the hardtop from the automobile;
- (2) Sustaining the hardtop at a fixed height once the hardtop has been removed from the automobile; and
- (3) Controllably lowering the hardtop onto the automobile during installation.

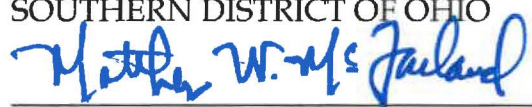
Corresponding Structure:

- (1) Ratcheting gear assembly with lift lever that controls upward and downward movement of platform around a hinged connection by operator applying downward force; connected to the vertical support beams in two parallel locations via hinged connections;
- (2) Two vertical platform push rods, each connected (a) at their lower end to the lift lever by hinged connections, (b) to the horizontal lift support members by additional hinged connections, and (c) to the platform at their upper ends by fixed connections;
- (3) Horizontal lift support members that by providing a second attachment location ensure the vertical push rods maintain a perpendicular orientation to the ground while moving up and down;
- (4) A semi-circular toothed lift gear affixed to the vertical support structure;
- (5) A pawl attached to the lift lever and having a spring loaded mechanism to engage the pawl and prevent downward movement of the platform when the pawl

	<p>is engaged while permitting free upward movement;</p> <p>(6) A release cable for the pawl; and</p> <p>(7) The structure corresponding to the alternate embodiment described in the '823 patent in relation to Fig. 15 is "a vertical platform push rod, a lift gear, and a corresponding gear motor," and equivalents thereof.</p>
"wherein the apparatus may be positioned to the hardtop while is [sic] installed on the automobile and selectively raised or lowered by said vertical lifting means"	"The apparatus may be moved into position to lift the hardtop while it is installed on the automobile and then selectively raised or lowered by the vertical lifting means."

The Court **ORDERS** each party not to refer, directly or indirectly, to its own or any other party's claim-construction positions in the presence of the jury. Likewise, the Court **ORDERS** the parties to refrain from mentioning any part of this opinion, other than the actual positions adopted by the Court, in the presence of the jury. Neither party may take a position before the jury that contradicts the Court's reasoning in this opinion. Any reference to claim construction proceedings is limited to informing the jury of the positions adopted by the Court.

IT IS SO ORDERED.

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF OHIO
By: 
JUDGE MATTHEW W. McFARLAND